

// Subsystem classes

```
class Amplifier {  
    public void on() { System.out.println("Amplifier on"); }  
    public void off() { System.out.println("Amplifier off"); }  
    public void setVolume(int level) { System.out.println("Setting volume to " +  
level); }  
}
```

```
class Tuner {  
    public void on() { System.out.println("Tuner on"); }  
    public void off() { System.out.println("Tuner off"); }  
}
```

```
class DVDPlayer {  
    public void on() { System.out.println("DVD Player on"); }  
    public void off() { System.out.println("DVD Player off"); }  
    public void play(String movie) { System.out.println("Playing " + movie); }  
}
```

```
class Projector {  
    public void on() { System.out.println("Projector on"); }  
    public void off() { System.out.println("Projector off"); }  
}
```

```
class TheaterLights {  
    public void dim(int level) { System.out.println("Dimming lights to " + level  
+ "%"); }  
}
```

```
class Screen {
```

```
    public void down() { System.out.println("Screen down"); }  
    public void up() { System.out.println("Screen up"); }  
}
```

```
class PopcornPopper {  
    public void on() { System.out.println("Popcorn Popper on"); }  
    public void pop() { System.out.println("Popping popcorn"); }  
}
```

// Facade class

```
class HomeTheaterFacade {  
    private Amplifier amp;  
    private Tuner tuner;  
    private DVDPlayer dvd;  
    private Projector projector;  
    private TheaterLights lights;  
    private Screen screen;  
    private PopcornPopper popper;  
  
    public HomeTheaterFacade(Amplifier amp, Tuner tuner, DVDPlayer dvd,  
Projector projector,  
TheaterLights lights, Screen screen, PopcornPopper  
popper) {  
        this.amp = amp;  
        this.tuner = tuner;  
        this.dvd = dvd;  
        this.projector = projector;  
        this.lights = lights;  
        this.screen = screen;  
        this.popper = popper;  
    }  
}
```

```
}
```

```
public void watchMovie(String movie) {  
    System.out.println("Get ready to watch a movie...");  
    popper.on();  
    popper.pop();  
    lights.dim(10);  
    screen.down();  
    projector.on();  
    amp.on();  
    amp.setVolume(5);  
    dvd.on();  
    dvd.play(movie);  
}
```

```
public void endMovie() {  
    System.out.println("Shutting movie theater down...");  
    popper.off();  
    lights.dim(100);  
    screen.up();  
    projector.off();  
    amp.off();  
    dvd.off();  
}  
}
```

```
// Client code to test Facade Pattern  
public class HomeTheaterTestDrive {  
    public static void main(String[] args) {  
        Amplifier amp = new Amplifier();
```

```
Tuner tuner = new Tuner();  
DVDPlayer dvd = new DVDPlayer();  
Projector projector = new Projector();  
TheaterLights lights = new TheaterLights();  
Screen screen = new Screen();  
PopcornPopper popper = new PopcornPopper();
```

```
HomeTheaterFacade homeTheater = new HomeTheaterFacade(amp,  
tuner, dvd, projector, lights, screen, popper);
```

```
    homeTheater.watchMovie("Inception");  
    homeTheater.endMovie();  
}  
}
```